

EA307

Pseudo code to perform naïve Gauss forward elimination

```
[m,n]=size(A);  
  
for k = 1:n-1;  
    for i = k+1:n;  
        factor = A(i,k)/A(k,k);  
        A(i,k) = 0  
        for j = k+1:n;  
            A(i,j) = A(i,j) - factor*A(k,j);  
        end  
        b(i) = b(i) - factor*b(k);  
    end  
end
```

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Pseudo code to perform partial pivoting at the kth pivot position.

```
newpivotrow = k;
sizepivot = abs(A(k,k));
for p = k+1:n;
    if abs(A(p,k)) > sizepivot
        newpivotrow = p;
        sizepivot = abs(A(p,k));
    end
end

for s = 1:n;
    Dummy(s) = A(k,s);
    A(k,s) = A(newpivotrow,s);
    A(newpivotrow,s) = Dummy(s)
end

Dummy(1) = b(k);
b(k) = b(newpivotrow);
b(newpivotrow) = Dummy(1);
```

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Pseudo code to perform back substitution

```
x(n) = b(n)/A(n,n);  
  
for i = n-1:-1:1;  
    sum = 0;  
    for j = i+1:n;  
        sum = sum + A(i,j)*x(j);  
    end  
    x(i) = (b(i) - sum)/A(i,i);  
end
```